



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-1070; Project Identifier MCAI-2021-00686-R; Amendment 39-22247; AD 2022-24-07]

RIN 2120-AA64

Airworthiness Directives; Airbus Helicopters Deutschland GmbH (AHD) (Type Certificates previously held by Messerschmitt-Bolkow-Blohm (MBB), and Eurocopter Deutschland GmbH (ECD)) Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is superseding airworthiness directive (AD) 77-04-06, which applied to Messerschmitt-Bolkow-Blohm (MBB) (now Airbus Helicopters Deutschland GmbH (AHD)) Model BO-105A and BO-105 C helicopters; AD 2002-13-06, which applied to certain Eurocopter Deutschland GmbH (ECD) (now Airbus Helicopters Deutschland GmbH (AHD)) Model BO-105A, BO-105C, BO-105 C-2, BO-105 CB-2, BO-105 CB-4, BO-105 CS-2, BO-105 CBS-2, BO-105S, and BO-105LS A-1 helicopters; AD 2016-25-14, which applied to certain Airbus Helicopters Deutschland GmbH (AHD) Model BO-105LS A-3 helicopters; and AD 2021-10-14, which applied to certain Airbus Helicopters Deutschland GmbH (AHD) Model BO-105A, BO-105C, BO-105S, and BO-105LS A-3 helicopters. Since the FAA issued those ADs, new and more restrictive airworthiness limitations have been issued. This AD requires incorporating into existing maintenance records requirements (airworthiness limitations) as specified in a European Union Aviation Safety Agency (EASA) AD, which is incorporated by reference. This AD also prohibits the installation of certain part-numbered tension-torsion (TT) straps. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES:

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1070; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the EASA AD, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

Material Incorporated by Reference:

- For service information identified in this final rule, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; telephone +49 221 8999 000; email ADs@easa.europa.eu; Internet easa.europa.eu.

- You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1070.

Other Related Service Information: For Airbus Helicopters service information identified in this final rule, that is not incorporated by reference, contact Airbus Helicopters, 2701 North Forum Drive, Grand Prairie, TX 75052; telephone (972) 641-0000 or (800) 232-0323; fax (972) 641-3775; or at airbus.com/helicopters/services/technical-support.html.

FOR FURTHER INFORMATION CONTACT: Kristi Bradley, COS Program Manager, COS Program Management Section, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 10101 Hillwood Parkway, Fort Worth, TX 76177; telephone (817) 222-5110; email kristin.bradley@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 77-04-06, Amendment 39-2835 (42 FR 9670, February 17, 1977; amended 44 FR 46783, August 9, 1979) (AD 77-04-06); AD 2002-13-06, Amendment 39-12794 (67 FR 43526, June 28, 2002) (AD 2002-13-06); AD 2016-25-14, Amendment 39-18740 (81 FR 94944, December 27, 2016) (AD 2016-25-14); and AD 2021-10-14, Amendment 39-21547 (86 FR 27268, May 20, 2021) (AD 2021-10-14).

AD 77-04-06 applied to Messerschmitt-Bolkow-Blohm (MBB) Model BO-105A and BO-105C helicopters. AD 77-04-06 was prompted by reports of internal corrosion of the main rotor gearbox (MGB) supports, which could significantly reduce the structural strength and service life. After AD 77-04-06 was issued, the FAA determined based on service experience and additional test investigations the total hours time-in-service (TIS) for certain part-numbered MGB supports could be increased. Accordingly, the FAA amended AD 77-04-06 by issuing Amendment 39-3528 (44 FR 46783, August 9, 1979), which increased the life limit for the MGB supports.

AD 2002-13-06 applied to Eurocopter Deutschland GmbH (ECD) Model BO-105A, BO-105C, BO-105 C-2, BO-105 CB-2, BO-105 CB-4, BO-105S, BO-105 CS-2, BO-105 CBS-2, BO-105 CBS-4, and BO-105LS A-1 helicopters, with certain part-numbered main rotor (MR) head assemblies and certain part-numbered TT straps installed. AD 2002-13-06 was prompted by an accident in which an MR blade separated from a Eurocopter Model MBB-BK 117 helicopter due to fatigue failure of a TT strap; the same part-numbered TT strap is used on Model BO-105 helicopters. AD 2002-13-06 was also prompted by the determination that an additional life limit for certain part-numbered TT straps needed to be established. AD 2002-13-06 required creating a component log card or equivalent record and determining the calendar age, number of flights, and flight hours TIS on certain part-numbered TT straps; removing and replacing certain TT straps, and modifying certain MR heads before certain part-numbered TT straps are installed. AD 2002-13-06 also required revising the Airworthiness Limitations Schedule (ALS) of the existing maintenance manual to reflect the new life limits.

AD 2016-25-14 applied to Airbus Helicopters Deutschland GmbH (AHD) Model BO-105LS A-3 helicopters with certain part-numbered TT straps installed. AD 2016-25-14 was prompted by the determination that life limits have been introduced for certain part-numbered TT straps installed on the helicopter lifting system, and during the revision of the ALS for the existing Model BO-105LS A-3 maintenance manual, the life limit for the TT strap was inadvertently deleted. AD 2016-25-14 required inspecting the helicopter records to determine the life limit of the TT straps. Depending on the results, AD 2016-25-14 required establishing a life limit if none exists; revising the ALS of the existing maintenance manual, and creating a component history card or equivalent record to reflect this life limit; and replacing certain TT straps.

AD 2021-10-14 applied to Airbus Helicopters Deutschland GmbH (AHD) Model BO-105A, BO-105C, BO-105S, and BO105LS A-3 helicopters equipped with a certain TT strap. AD 2021-10-14 was prompted by the FAA's determination that aging of the elastomeric material in a TT strap could affect the structural characteristics of the TT strap. AD 2021-10-14 required replacement of certain TT straps with serviceable parts and implementation of a new storage life limit for TT straps.

The NPRM published in the *Federal Register* on September 7, 2022 (87 FR 54636). The NPRM was prompted by EASA AD 2021-0142, dated June 17, 2021 (EASA AD 2021-0142), issued by EASA, which is the Technical Agent for the Member States of the European Union, to correct an unsafe condition for Airbus Helicopters Deutschland GmbH (AHD), formerly Eurocopter Deutschland GmbH, Eurocopter Hubschrauber Deutschland GmbH, Messerschmitt-Bölkow-Blohm GmbH; Eurocopter Canada Ltd, formerly Messerschmitt-Bölkow-Blohm Helicopter Canada Limited, Model BO105 A, BO105 C, BO105 D, BO105 S, BO105 LS A-1, and BO105 LS A-3 helicopters, all variants, all serial numbers, including BO105 LS A-3 helicopters modified in accordance with EASA Supplemental Type Certificate (STC) 10039633, or previously Luftfahrt-Bundesamt (LBA) Germany STC EMZ NR. 0654/3058 (commercially known as “Superlifter”). EASA AD 2021-0142 superseded a series of ADs to include EASA AD 2019-0024, dated February 4, 2019 (which prompted AD 2021-10-14); EASA AD 2015-0042, dated March 9, 2015 (which prompted AD 2016-25-14); EASA AD 2013-0015,

dated January 16, 2013; EASA AD 2010-0153, dated July 27, 2010; LBA Germany AD 2001-281, dated October 18, 2001 (which prompted AD 2002-13-06); and LBA Germany AD 76-136/2, dated October 5, 1978 (which prompted AD 77-04-06).

The NPRM proposed to require incorporating into existing maintenance records new and more restrictive requirements (airworthiness limitations), as specified in EASA AD 2021-0142. The NPRM also proposed to prohibit the installation of certain part-numbered TT straps. The FAA is issuing this AD to address the unsafe condition on these products.

Additionally, the actions required to address the unsafe conditions in AD 77-04-06, AD 2002-13-06, AD 2016-25-14, and AD 2021-10-14 are included in “the applicable ALS,” as defined in EASA AD 2021-0142. Therefore, the FAA is superseding AD 77-04-06, AD 2002-13-06, AD 2016-25-14, and AD 2021-10-14 in order to reduce the burden on operators by requiring compliance with a single FAA AD in lieu of multiple FAA ADs.

You may examine EASA AD 2021-0142 in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1070.

Discussion of Final Airworthiness Directive

Comments

The FAA received no comments regarding the NPRM or on the determination of the cost to the public.

Conclusion

These helicopters have been approved by EASA and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with the European Union, EASA has notified the FAA about the unsafe condition described in its AD. The FAA reviewed the relevant data and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these helicopters. Except for minor editorial changes, this AD is adopted as proposed in the NPRM.

Related Service Information Under 1 CFR Part 51

EASA AD 2021-0142 requires replacing certain components before exceeding their applicable life limit. EASA AD 2021-0142 also prohibits installing Bendix TT-strap part number 2602559, 2606576, 2604067, or 117-14110, and requires revising the approved aircraft maintenance program (AMP) by incorporating the limitations described in "the applicable ALS" as defined in EASA AD 2021-0142.

This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Other Related Service Information

The FAA reviewed Airbus Helicopters BO 105 Maintenance Manual (MM), Revision 31, dated December 15, 2020, for Model BO-105A, BO-105C, BO-105 D, BO-105S, and BO-105LS A-1 helicopters; Airbus Helicopters BO 105 LS A-3 MM, Revision 7, dated November 27, 2018, for Model BO-105 LS A-3 helicopters; and Airbus Helicopters MM BO 105 LS A-3 "Super Lifter" Appendix 010, Revision 4, dated March 28, 2019, for BO 105 LS A-3 "Superlifter" helicopters.

This service information specifies certain actions and associated thresholds and intervals, including life limits and maintenance tasks. These requirements (airworthiness

limitations) include new life limits, including cure dates and storage life limits, for certain part-numbered TT straps.

ADs Mandating Airworthiness Limitations

The FAA has previously mandated airworthiness limitations by mandating each airworthiness limitation task (e.g., inspections and replacements (life limits)) as an AD requirement or issuing ADs that require revising the ALS of the existing maintenance manual or instructions for continued airworthiness to incorporate new or revised inspections and life limits. This AD, however, requires operators to incorporate into maintenance records required by 14 CFR 91.417(a)(2) or 135.439(a)(2), as applicable for your helicopter, the requirements (airworthiness limitations) specified in EASA AD 2021-0142. The FAA does not intend this as a substantive change. For these ADs, the ALS requirements for operators are the same but are complied with differently. Requiring the incorporation of the new ALS requirements into the maintenance records, rather than requiring individual ALS tasks (e.g., repetitive inspections and replacements), requires operators to record AD compliance once after updating the maintenance records, rather than after every time the ALS task is completed.

In addition, paragraph (h) of this AD allows operators to incorporate later approved revisions of the ALS document as specified in the “Ref. Publications” section of EASA AD 2021-0142 without the need for an alternative method of compliance (AMOC).

Differences Between this AD and the EASA AD

This AD does not require compliance with paragraphs (3), (4), and (5) of EASA AD 2021-0142.

EASA AD 2021-0142 is applicable to Model BO-105D helicopters, whereas this AD is not because Model BO-105D helicopters are not certificated by the FAA and are not included on the U.S. type certificate data sheet. EASA AD 2021-0142 is applicable to Model BO-105 LS A-3 helicopters modified in accordance with EASA STC 10039633, or previously LBA Germany STC EMZ NR. 0654/3058 (commercially known as “Superlifter”), whereas this AD applies to Model BO-105 LS A-3 helicopters modified in accordance with STC SR00043RD.

Costs of Compliance

The FAA estimates that this AD affects 67 helicopters of U.S. registry. Labor rates are estimated at \$85 per work-hour. Based on these numbers, the FAA estimates the following costs to comply with this AD.

Incorporating requirements (airworthiness limitations) into existing maintenance records takes about 2 work-hours for an estimated cost of \$170 per helicopter and \$11,390 for the U.S. fleet.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA has determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by:

a. Removing Airworthiness Directive 77-04-06, Amendment 39-2835 (42 FR 9670, February 17, 1977; amended 44 FR 46783, August 9, 1979); Airworthiness Directive 2002-13-06, Amendment 39-12794 (67 FR 43526, June 28, 2002); Airworthiness Directive 2016-25-14, Amendment 39-18740 (81 FR 94944, December 27, 2016); and Airworthiness Directive 2021-10-14, Amendment 39-21547 (86 FR 27268, May 20, 2021); and

b. Adding the following new airworthiness directive:

2022-24-07 Airbus Helicopters Deutschland GmbH (AHD) (Type Certificates previously held by Messerschmitt-Bolkow-Blohm (MBB), and Eurocopter Deutschland GmbH (ECD)): Amendment 39-**22247**; Docket No. FAA-2022-1070; Project Identifier MCAI-2021-00686-R.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces the ADs specified in paragraphs (b)(1) through (4) of this AD.

(1) AD 77-04-06, Amendment 39-2835 (42 FR 9670, February 17, 1977; amended 44 FR 46783, August 9, 1979).

(2) AD 2002-13-06, Amendment 39-12794 (67 FR 43526, June 28, 2002).

(3) AD 2016-25-14, Amendment 39-18740 (81 FR 94944, December 27, 2016).

(4) AD 2021-10-14, Amendment 39-21547 (86 FR 27268, May 20, 2021).

Note 1 to paragraph (b): The requirements of this AD capture the latest tasks and life limits required to prevent the unsafe conditions addressed by the ADs that are identified in paragraphs (b)(1) through (4) of this AD.

(c) Applicability

This AD applies to all Airbus Helicopters Deutschland GmbH (AHD) (type certificates previously held by Messerschmitt-Bolkow-Blohm (MBB), and Eurocopter Deutschland GmbH (ECD)) Model BO-105A, BO-105C, BO-105S, BO-105LS A-1, and BO-105LS A-3 helicopters, including BO-105LS A-3 helicopters modified in accordance with Supplemental Type Certificate SR00043RD, certificated in any category.

(d) Subject

Joint Aircraft Service Component (JASC) Code: 6300, Main Rotor Drive System.

(e) Unsafe Condition

This AD was prompted by new and more restrictive airworthiness limitations. The FAA is issuing this AD to address the failure of certain parts, which could result in the loss of control of the helicopter.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) Within 30 days after the effective date of this AD, incorporate into maintenance records required by 14 CFR 91.417(a)(2) or 135.439(a)(2), as applicable for your model and configuration helicopter, the requirements (airworthiness limitations) specified in paragraphs (1.1), (1.2), and (1.3), and the Definitions section, of European Union Aviation Safety Agency (EASA) AD 2021-0142, dated June 17, 2021 (EASA AD 2021-0142). Where paragraphs (1.2) and (1.3) of EASA AD 2021-0142 refer to its effective date, this AD requires using the effective date of this AD.

(2) As of the effective date of this AD, comply with the parts installation prohibition specified in paragraph (2) of EASA AD 2021-0142.

(h) Provisions for Alternative Requirements (Airworthiness Limitations)

After the actions required by paragraph (g)(1) of this AD have been done, no alternative requirements (airworthiness limitations) are allowed unless they are approved as specified in the provisions of the “Ref. Publications” section of EASA AD 2021-0142.

(i) Special Flight Permit

Special flight permits, as described in 14 CFR 21.197 and 21.199, are prohibited.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the International Validation Branch, send it to the attention of the person identified in paragraph (k) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(k) Related Information

For more information about this AD, contact Kristi Bradley, COS Program Manager, COS Program Management Section, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 10101 Hillwood Parkway, Fort Worth, TX 76177; telephone (817) 222-5110; email kristin.bradley@faa.gov.

(l) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) European Union Aviation Safety Agency (EASA) AD 2021-0142, dated June 17, 2021.

(ii) [Reserved]

(3) For EASA AD 2021-0142, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; telephone +49 221 8999 000; email ADs@easa.europa.eu. You may find this EASA AD on the EASA website at ad.easa.europa.eu.

(4) You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this material that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on November 10, 2022.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2022-26253 Filed: 12/1/2022 8:45 am; Publication Date: 12/2/2022]